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Universe of Teleological Illth: A Critique of StarCraft 2

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Abstract

This paper critically examines the computer game *StarCraft 2*, and argues that the game serves as a model of teleological illth. The *StarCraft 2* universe leaves no room for peace, cultural development, or alternative horizons of being because the intentional industrialized production of destruction (i.e. teleological illth) creates a kind of logical insanity where total war is at least validated if not indispensable. This impossibility of alternative horizons sanitizes illth as these limited horizons inform the player-reader of the game about the universe of *StarCraft 2* and act as an implicit apologist for this worldview. By way of considering the buildings, upgrades and units as teleological illth and reading the ways in which the *StarCraft 2* universe demands illth to sustain, this paper critically examines the validation and cultivation of illth as a problematic horizon of meaning. Through this critical reading of *StarCraft 2*, the authors offer a framework for critique which naturally extends to most of the Real-Time Strategy genre and most war games generally.

Author Keywords

StarCraft 2; illth; teleology; game studies; real-time strategy; Blizzard Entertainment; war games

Introduction

As Dor (2014) points out, “[s]tudying Real-Time Strategy (RTS) games is not commonplace in game studies today.” This gap in study is likely (hopefully) nothing more than a short-term stillness in an emerging field of study with near limitless games, genres and perspectives still to be explored. This paper seeks to break this stillness by critically exploring *StarCraft 2*. *StarCraft 2* (2010) is a real-time strategy game published by Blizzard Entertainment. Building on a history of seminal, genre defining, real-time strategy games (*Warcraft*, 1994; *Warcraft II*, 1995, 1996; *StarCraft*, 1998), Blizzard released *StarCraft 2* on July 27, 2010. As of 2011, Blizzard reported sales of over 4.5 million copies (Blizzard, 2011). Further, the game has informally been regarded as heavily illegally pirated.

The lore of the *StarCraft* franchise centers around three races – Terran, Protoss and Zerg – fighting for survival in the Koprulu sector at the beginning of the 26th century. The game offers several modes. For instance, the single player campaign mode, in which the player takes on missions for

the various races which act as a simultaneous challenge for the player, a training exercise to learn how to use the various units in combat, and vehicle to advance the lore of the game. In order to access the next mission in the campaign, players must achieve victory by completing the objectives of their current mission which largely consist of assaulting an enemy or withstanding an enemy assault. In the campaign mode, the missions become increasingly complex, adding new enemy units, time restrictions and multitasking requirements while also introducing new units and upgrades for the player to master.

In addition to the campaign, there is also the enormously popular *multiplayer mode* in which the player can choose to play against computer controlled players (which can be set to a range of difficulties) or play against other human players. At the beginning of each multiplayer game, each player is allotted one foundational structure (Terran – command center; Protoss – nexus; Zerg – hatchery), six workers and 50 minerals. The workers gather two types of resources: minerals and vespene gas. Minerals and vespene gas are then used by workers to create structures or spent in structures to create units or upgrades.

In multiplayer matches, there are two outcomes – one of which is extremely rare. The game is declared a victory when either faction has destroyed all of the opponent factions' structures or all the players from one faction surrender (i.e. leave the game). In very rare cases, the game is declared a stalemate when neither faction completes any of the following five actions for six in-game minutes: generating income, producing a unit, constructing a building, researching an upgrade, or destroying an enemy building. The stalemate condition is generally only achieved in the aftermath of a major battle that has left both factions with structures still standing and no units to mine minerals, produce units, or destroy their opponent. This paper examines the multiplayer mode of *StarCraft 2*.

Narratology and Ludology

Readers familiar with the field of game studies will immediately recognize that this article begs an essential (and political) question: what is a game? In game studies that question has often come to mean that a game is a narrative, a game, or both (Juul, 2001; Simmons, 2007; Eskelinen, 2004). As Arjoranta (2014) puts it, “[i]n order to understand games, you must have some idea of what they are.” This ontological concern is primary to any scholarly, intellectual, or academic discussion. The specter of “weasel-words” has rightfully distressed the academic community ever since Guttenberg. Our fixing words to the paper at an industrial pace – indeed, our first mass produced product (McLuhan, 1962, p.142) – required that words be subjected to the naked light of print. Neither inflection, nor fading memory, nor any other obscuring force could opaque words' exactitude. Ontology, as a systemic *articulated* claim on the nature of being, is made possible by the academic lifeblood: print. Therefore, our preoccupation with the ontological status of games – what *are* they – is at the very least an understandable “necessary ritual” (Arjoranta, 2014).

Arjoranta, buttressed by the work of Aarseth and Calleja (2009), Frasca (2007) and principally Wittgenstein (1953), suggests that, though nominal definitions may abound, there may be no one real definition of games. By real definition, Arjoranta (2014) means the “attributes that are in some way essential to the object being defined.” The challenge to the real definition of “games” is that games share “no core attributes that can be used in separating games from other phenomena”

(2014). Instead, Arjoranta suggests that games exist as a continuum of core characteristics. Therefore, understanding games may be more useful through examining family resemblances. If this new direction away from essential definitions is philosophically tenable, the task of the researcher is no longer to defend a definition as being absolute; rather, the task is to articulate a definition that works for a practical purpose.

To reiterate this point, in divergent terms but similar perspective:

There are as many approaches to the question of “games and stories” as there are designers, artists, technologists, and academics asking the questions. The truth, of course, is that there are no right or wrong approaches. It all depends on the field in which a particular inquiry is operating and exactly what the inquiry itself is trying to accomplish.”

Zimmerman, p. 154 (2004)

In this paper, the practical purpose of defining games is to welcome the reader to join in a shared perspective on games such that certain claims can become intelligible. It is in this spirit that *StarCraft 2*, particularly the multiplayer mode and surrounding lore is understood as an “explicitly interactive narrative systems of formal play” (Zimmerman, 2004) which can be read, played, and analyzed for themes, worldview and characters. This definition allows the author and reader to consider the implicit assumptions and worldview that the game evidences. Such a project is important because, as Jenkins and Squire (2003) make clear, “[t]here is no such thing as a neutral simulation; they all embody assumptions about the way the world works”.

Illth

Illth provides a compelling framework to consider the teleology of *StarCraft 2*, yet both ‘teleology’ and ‘illth’ are esoteric, or at least technical terms and as such they merit some consideration before moving any further with this examination. Illth first appears in John Ruskin’s 1860 articles in *Cornhill Magazine*. These articles, compiled into a single volume in 1862, were titled *Unto this last*, a reference to Christ’s Parable of the Workers in the Vineyard from Matthew 20:1-16. In this parable, at the beginning of the work day, labourers are employed to work in the field for one shilling. Throughout the day, the owner of the field continues to hire labourers and also offers them a shilling to work in the field. At the end of the day the owner of the vineyard pays all workers one shilling, as each had agreed – thus arousing the jealousy of those who had worked the entire day for the same benefit as those who had worked only one hour.

Ruskin creatively re-appropriates this parable – frequently a parable about metaphysical or spiritual salvation – into a real world political ethic regarding the distribution of a living wage. In so doing, the text aroused the ire of a great many readers who felt the ethic at very least bordered on (an unpopular) socialist stance that was largely disdained. In the text Ruskin critiques a growing “political science” which fails to precisely define wealth, citing an author who claims, “Everyone has a notion, sufficiently correct for common purpose, of what is meant by wealth...It is no part of the design of this treatise to aim at metaphysical nicety of definition” (1862, p. 6). Ruskin then embarks on a project of illustrating a rich conception of wealth, concluding that wealth is necessarily intertwined with justice:

The whole question, therefore, respecting not only the advantage, but even the quantity, of national wealth, resolves itself finally into one of abstract justice. It is impossible to conclude, of any given mass of acquired wealth, merely by the fact of its existence, whether it signifies good or evil to the nation in the midst of which it exists. Its real value depends on the moral sign attached to it, just as sternly as that of a mathematical quantity depends on the algebraical sign attached to it. Any given accumulation of commercial wealth may be indicative, on the one hand, of faithful industries, progressive energies, and productive ingenuities: or, on the other, it may be indicative of mortal luxury, merciless tyranny, ruinous chicane. Some treasures are heavy with human tears, as an ill-stored harvest with untimely rain; and some gold is brighter in sunshine than it is in substance.

Ruskin, p. 23 (1862)

And later, Ruskin sums up emphatically: “Wealth, therefore, is ‘THE POSSESSION OF THE VALUABLE BY THE VALIANT [SIC]’” (p. 41).

So Ruskin views wealth not simply as a mass of amoral possessions, but as resources fairly acquired and subsequently deployed for the benefit of society. In Ruskin’s view, when these tools are ill-gotten and/or deployed to the detriment of society they fail to be wealth – they rather become illth:

Whence it appears that many of the persons commonly considered wealthy, are in reality no more wealthy than the locks of their own strong boxes are, they being inherently and eternally incapable of wealth; and operating for the nation, in an economical point of view, either as pools of dead water, and eddies in a stream...or else, as mere accidental stays and impediments, acting not as wealth, but (for we ought to have a correspondent term) as “illth,” causing various devastation and trouble around them in all directions.

Ruskin, p. 78-9 (1862)

George Bernard Shaw, in his 1889 essay *The Economic Basis of Socialism*, pays homage to Ruskin in his section titled “Illth” (p. 22-29). In this section Shaw bitterly critiques England’s social policies and uses the concept of illth to illustrate the juxtaposition between luxury in the face of poverty:

The moment a price is to be had for a luxury, it acquires exchange value, and labor is employed to produce it. A New York lady, for instance, having a nature of exquisite sensibility, orders an elegant rosewood and silver coffin, upholstered in pink satin, for her dead dog. It is made; and meanwhile a live child is prowling barefooted and hunger-stunted in the frozen gutter outside. The exchange-value of the coffin is counted as part of the national wealth; but a nation which cannot afford food and clothing for its children cannot be allowed to pass as wealthy because it has provided a pretty coffin for a dead dog.

Shaw, p. 22 (1889)

This exposition further clarifies the term *illth* for the neophyte reader – *illth* is wealth (goods, labour) turned toward projects of secondary and tertiary importance, (mis)appropriation that ignores human and environmental flourishing, or – as we see in Mumford – wealth actively used for destruction.

Lewis Mumford's *Technics and Civilization* (1934) is a classic in the fields of technology studies, media studies, and communication theory. Mumford, a public intellectual, began probing questions (especially *Technics and Civilization*, but also elsewhere) that later intellectuals – most (in)famously Marshall McLuhan – would extensively build on as the academy began to think seriously about technology as a force worth serious contemplation. Mumford ranges in topics in his 1934 work, and in the book's later stages it turns to a critique of industrial society, particularly the military-industrial complex – a concept anticipated by Mumford, but not coined for some three decades after the book's publication. In this manuscript, Mumford cites Ruskin's influence saying:

An army is a body of pure consumers. As the army grew in size it threw a heavier and heavier burden upon productive enterprise: for the army must be fed and housed and equipped, and it does not, like the other trades, supply any service in return except that of "protection" in times of war. In war, moreover, the army is not merely a pure consumer but a negative producer: that is to say, it produces *illth*, to use Ruskin's excellent phrase, instead of wealth-misery, mutilation, physical destruction, terror, starvation and death characterize the process of war and form a principal part of the product.

Mumford, p. 93 (1934)

In Mumford's work, the final transformation of *illth* as concept is completed. The word no longer refers to only the immoral, selfish, or questionable uses of wealth, but to the negative producer – that which uses resources in order to produce destruction, misery, terror and death. This is a perceptive re-appropriation of the term to characterize the intention of the Modern, industrial society to produce that which actively destroys other nation's wealth; that is military might. As well as his sensitivity to the ironic way in which an army does not itself produce any wealth for its own nation. It is, therefore, passively and actively an *illth* producer.

Teleology

A full historical derivation of teleology is beyond the scope of this paper. Readers interested in deepening their understanding of both teleology and the history of the idea should be directed to the excellent, comprehensive work of Woodfield (1976). For classic work on teleology the reader is directed to Plato (1955; 2000), Aristotle (1936; 2000), Kant (2005), and Jung (1956) as various starting places. The task here is to give a brief elucidation on teleology, offering a basic explication on what the word means and why it is here used. This brief elucidation is necessarily impoverished as to gain clarity, perhaps at the expense of rich linguistic precision.

Teleology translates literally from the Greek *telos* and *logos*. *Telos* translates to end, goal, or result. *Logos* translates to word, or in the suffix context "the study of". Teleology is therefore concerned with the study of ends, goals and results. A classic example of teleology is Aristotle's example of

the acorn that grows into an oak tree. It can be said that the telos of the acorn is to become an oak tree (Leunissen, 2010; Gotthelf, 2012). Note that the teleological argument does not require that the acorn intend to become an oak tree – intention demands conscious choice, something that an acorn (presumably) does not have. Teleology therefore does not require a conscious choice, just a sort of direction, force, or inertia that drives an object, individual, or system toward some eventual (even inevitable) ends. This is not to suggest that teleological arguments require a void of intent. Intelligent design theories essentially rest on the shoulders of teleology. In Plato's *Timaeus* the titular character outlines what amounts to an early version of intelligent design theory. The dialogue (more truly a monologue) ends with Timaeus' words:

And so we may say that our account of the universe has reached its conclusion. This world of ours has received and teems with living things, mortal and immortal. A visible living thing containing visible ones, a perceptible god, image of the intelligible Living Thing, its grandness, goodness, beauty, and perfection are unexcelled. Our one heaven, indeed the only one of its kind, has come to be.

Plato, p. 106

Timaeus has been echoed through the history of philosophy and theology by innumerable individuals hoping to draw the conclusion that the existence of a creator(s) can be proven by the evidence of the creation (i.e. Leibniz's "best of all possible worlds" argument). The teleology proves something about the creator or mover.

Teleology is therefore very important in the various created universes of video games. Video games are demonstrably created by intelligent designer(s) who make conscious, intentional decisions about the form and content of their universes. Thus, the implicit values of the teleology inherent in the universe reflect back on the designers. The intentional choices – and often even more damning, the implicit prejudices – of designers reflect our biases that are reflective of values, as critical studies work (feminist critique, queer critique, etc.) points out (Cassell and Jenkins, 2000; Kafai, et. al., 2011). One example from *StarCraft 2* is the feminist critique that the game portrays the character Sarah Kerrigan, who is called a 'bitch' on numerous occasions, within a rape narrative (Mendelbaum, 2010). This is not to advocate some type of moralistic judgement of video game designers. Rather, it is to contend that video games are never just game or art or expression – they are also (nearly) always commercial products. As such, video game designers are also concerned with the commercial prospects of the game. The directing effect of the audience cannot be overstated here. Unlike the Christian conception of the Creator who creates ex nihilo, video game designers create building on premade tools for a commercial purpose in a meaningful social context. This reality makes the values, responsibilities and praise inherent in a created teleology of a video game universe a shared accountability of designers, producers, publishers and consumers.

Teleological Illth

Informed with a rich understanding of illth and teleology, it is possible to see *StarCraft 2* – and likely the vast majority of RTS games – as evidencing an orientation toward and celebration of teleological illth. The game sufficiently constrains the players in such a way that all actions serve

the ultimate purposes of illth. This occurs in two ways. First, buildings, upgrades and units act as determinants of illth. Second, the universe requires illth to persist.

Buildings, upgrades and units as determinants of illth

As determinants of illth, there is a sort of double resonance that is called to the fore. First, buildings, upgrades and units do illth to the faction that is creating them because each costs the faction resources and time. If alternative horizons (e.g. peace, collaboration) were possible, the military apparatus which does not “supply any service in return except that of ‘protection’ in times of war” (Mumford, 1934, p. 93) would be seen as draining the collective wealth. However, inasmuch as the universe only allows for total war, protection becomes an (the) essential trade despite being a drain on the productive wealth of the faction. The second way that buildings, upgrades and units act as determinants of illth is by creating the confined infrastructure for destruction. That is, each building provides infrastructure for creating destruction – and only for creating destruction. This is straightforwardly true with defensive buildings (e.g. missile turrets, spine crawlers, etc.) as they consume resources (even the life of a drone) to complete and they serve only to provide protection. Buildings that produce warring units (e.g. barracks, larva, gateways, etc.) do not embody illth, as they themselves do not exist principally to provide protection (except when used to block the enemy), rather they exist to create the units which create illth. They are then essential teleological pieces as sites where the exchange of illth takes place. It is at these sites that the constraints of illth take hold most prevalently. When a player attends this site they are given a sort of pseudo-choice between (in the case of a fully upgraded and supported barracks) a marine, marauder, reaper and ghost. Each of these units have their own prices, training times and strategic utility which are meaningful choices assuming a total acceptance of the premise of the universe. However, each of these choices are equivalent in terms of their endorsement of an orientation of illth. The other buildings which comprise the *StarCraft 2* universe – farms (i.e. supply depots, overlords, pylons) which allow for a higher unit capacity, town halls (i.e. command center, hatchery, nexus) which allow for the gathering of minerals and creation of mineral gathers, upgrade buildings (e.g. engineering bay, hydralisk den, etc.) which unlock new units and act as sites for upgrades – all further support the ultimate end of enhancing the rate at which damage, destruction and death can be dealt. None of these buildings act as any type of end in themselves. They all are ultimately utilitarian (teleological) supports toward warfare (illth).

Upgrades are structurally different than buildings. Once a building is destroyed, the player is unable to attend that site and exchange minerals for the units that the building permits; whereas, an upgrade, once completed, stays with a player until the end of the game. Further, upgrades do not have physical manifestations like buildings. Upgrades – as knowledge – are nebulous rather than “concrete”. However, beyond these two differences, upgrades and buildings are essentially the same. In fact, considering upgrades and their linear nature (e.g. infantry armor – level 1; infantry armor – level 2; infantry armor – level 3) gives an important insight into buildings that was not explored in the above paragraph – both upgrades and buildings are essentially technology trees. Technology trees “come in the shape of linear upgrade paths or interlocking vines structures, and fulfill various strategic and narrative functions in the games” (Ghys, 2012). As Ghys shows in his excellent paper, technology trees are deterministic, hence they (at least simple technology trees) are teleological. Each step on the path is not so much an end in itself as a strategic step toward other ends that are predetermined. By empowering the path, the ends that are pre-scripted are thus

empowered. Therefore, by empowering the technological trees by constructing buildings and obtaining upgrades (that is, playing the game) the orientation toward teleological illth is necessitated.

Finally, it would be remiss to overlook the pinnacle of illth, the units. There are a variety of units – damage dealers (e.g. marines, zerglings, etc.); support units (e.g. medivacs, vipers, etc.) and resource gatherers (e.g. SCVs, probes, etc.). It is imperative to here understand how each unit, even non-violent units, serve the total war effort and are therefore embodiments of illth. On the surface, the resource gathering units seem to be an exception to this rule as they do not create illth as they principally create wealth (by mining and by creating buildings). The workers – the proletariat of the *StarCraft 2* universe – are co-opted into illth by having their labour directed toward that which only consumes and destroys. It is the logical insanity of a total war that makes the consumption, and eventual exhaustion, of all resources in destruction sanitized as first necessary, later normal and finally natural.

Support units further attest to teleological illth by acting as technicians and infrastructure to conquer the challenges of space and time in the map. Transportation units conquer barriers like waterways. The mothership core conquers time by beaming all units in its radius back to a nexus. In this way these units become little more than technical pieces that, while they do not inflict damage, destruction, or death, become necessary aids to efficient illth.

Damage dealing units – units that are principally constructed for damage, destruction and death – comprise the majority of the units in the *StarCraft 2* universe. It is damage-dealing units that principally personify illth. There are at least three ways that these units personify teleological illth. First, they are the intended culmination of the resources, buildings and upgrades required for their creation. With each announcement of arrival from their place of construction they announce a type of self-actualization of the faction's efforts. As an illustrating thought-experiment, it can be safely assumed that if the various processes that precede the appearance of damage dealing troops were not required, no player would bother to engage in them. If construction did not require minerals, no one would mine them. If all units could be built from the initial building without the requirements of the tech tree, the player would immediately choose the units that had the greatest utility for destroying the opponent. The workers who gather minerals, the buildings that construct damage-dealing units and the upgrades which enhance damage-dealing units are essentially all only means towards the desired ends – the ability to inflict damage, destruction and death. It is therefore the context of total war which reduces all other buildings, units, and upgrades to mere requisite infrastructure which serves the higher purpose. Secondly, the damage dealing units embody teleological illth by their own limited horizons of meanings. These units have no other possible utility other than dealing damage to the enemy. They cannot engage in any productive utility. As if this we not striking enough, with the exception of Terran ghosts (which can be made to stand down), every unit left without orders defaults to attacking the enemy upon sight. The units are hardwired for violence. There is, within the universe of competitive online gaming, no alternative orientations. Third, all buildings and units are understood as commodities. As such, the player is invited to a managerial stance toward their own accumulated wealth. Each piece of wealth is assessed for its value relative to opponent's value. When one commodity can be traded for a greater amount commodity from an opponent (e.g. a marine drop in the mineral line may cost the player the cost and training time of a platoon of marines, but destroy a sufficient number of

opponent's workers) it is a strategically wise decision. The commoditization of that which is irreplaceable (i.e. life) and that which is finite (i.e. resources) is a requisite step for illth as commoditization of scarce resources contextualizes war as necessary and logical. The intentional production of damage, destruction and death that can be presided over by an efficient, calculating manager – this context makes such a system of production intelligible.

The universe requires illth to persist

If the game intends illth, the universe demands illth. In the literal economy (eco=home, nomos=law) of this universe, subversion of meaning is incredibly difficult. Should the players choose to subvert the teleological illth of the game by a display of non-violence, the players risk ending the game, or to think of the event in the game's terms – the players risk the end of the universe. The game is built in such a way that a period of *inactivity* will create a stalemate condition. The stalemate is created if the players fail to complete the following actions for six in-game minutes:

- Generate income
- Produce a unit
- Construct a building
- Research an upgrade
- Destroy an enemy building

Generating income (i.e. mining the finite resources of the universe), producing a unit (i.e. producing illth by creating units to either mine resources or destroy opponents), constructing a building (i.e. creating further infrastructure for producing illth), researching an upgrade (i.e. discovering new efficiencies for creating illth to opponents, preventing illth to self, or enhancing mining), or destroying an enemy building (i.e. dealing illth) make the game-universe persist. The universe of each discreet game is designed to end when the players do not engage in actions that lead to illth or directly deal illth. In like terms to the Marxist critique of Western society being able to envision the end of the world but not the end of capitalism, the *StarCraft 2* universe can envision the end of the universe, but not the end of illth.

It is best to understand this critique as a qualitative description of *StarCraft 2* in particular, and RTS games in general, that is (hopefully) well researched and well argued. This critique would be poorly applied as a platform for a narrow political agenda (e.g. in the spirit of the moral panics that have dotted the history of gaming. See Squire, 2002; Steinkuehler, Squire, & Barab, 2012). That said, in the spirit of building linkages to real-world application, there are two spaces of questioning that arise in light of this critique. The first question is: does the success of the game, and of the genre, suggest something about the existence of a particular worldview among its fans? How does the ludology of *StarCraft 2*, with its implications of teleological illth and the sanitization total war, play into larger narratives around war and justification of illth? These questions are beyond the scope of this paper and likely the talents of the authors and would be best addressed through a wide media lens (i.e. beyond games alone). The second question is how players may subvert this particular reading of *StarCraft 2*? Are there ways that fans – within the confines of the game or through a collective voice demanding the development of more malleable gameplay – can find alternative readings? One compelling example is Destiny's Mass Queen strategy; though this

remains a flawed example of subversion. There may be possibilities within team play, though those are not explored here.

Conclusion: War as Game

StarCraft 2, like many RTS games, constructs a universe of teleological illth. The construction of the game mechanics – domination of one side at the expense of the genocide of the other, limited resources, technology trees which only lead to enhanced illth (but never alternatives to illth), units which are default to pursuing damage, destruction and death, and a cessation of the universe as a result of the end of illth – makes a subversion of meaning difficult if not impossible. It is through the contextualization of the world as total war (e.g. the other is always hostile, the only game options available to the player all consume one's own wealth in order to destroy the opponent's wealth) that there arises a kind of logical insanity that the player enters into by playing in the universe. However, if we take Jenkins and Squire's (2003) assertion seriously that "[t]here is no such thing as a neutral simulation; they all embody assumptions about the way the world works," then we must ask critical questions about the worldview that the game proposes, cultivates and validates. Do not understand this critique to be a moral panic of video games making children violent. Indeed, this critique is intended to cut more deeply. This critique is to suggest in fact that the processes of illth that characterize contemporary North American – and, increasingly, global – political, economic, social and military life are implicitly evidenced and sanitized by *StarCraft 2* and (perhaps) RTS games generally.

References

- Aarseth, E. & Calleja, G. (2009). The word game: The ontology of an undefinable object. Invited talk at *The Philosophy of Computer Games*. Oslo, 13-15 August 2009.
- Arjoranta, J. (2014). Game definitions: A Wittgensteinian approach. *Game Studies*, 14:1. Retrieved from <http://gamestudies.org/1401/articles/arjoranta>
- Aristotle. (2000). (A. L. Peck, trans.) *Generation of animals*. Cambridge, MA: Harvard University Press.
- Aristotle. (1936). (W. D. Ross, trans.). *Physics*. Oxford, England: Oxford University Press.
- Blizzard Entertainment. (1994). *Warcraft: Orcs & humans*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (1995). *Warcraft II: Tides of darkness*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (1996). *Warcraft II: Beyond the dark portal*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (1998). *StarCraft*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (1998). *StarCraft: Brood war*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (2010). *StarCraft 2: Wings of liberty*. [PC]. Blizzard Entertainment.
- Blizzard Entertainment. (2011) *Fourth quarter and CY 2010 results*. Retrieved on November 14, 2014 from investor.activision.com/common/download/download.cfm?companyid=ACTI&fileid=440263&filekey=2a37de98-400f-4916-9bb3-ae5dddf1b86b8&filename=ATVI%20C4Q10%20slides%20FINAL.pdf
- Cassel, J. & Jenkins, H. (Eds.). (2000). *From Barbie to Mortal Kombat: Gender and computer games*. Cambridge, MA: MIT Press.
- Cohen, S. (2002). *Folk devils and moral panics*. New York, NY: Routledge.
- Dor, S. (2014). The heuristic circle of real-time strategy process: A StarCraft: Broad War case study. *Game Studies*. 14:1. Retrieved from <http://gamestudies.org/1401/articles/dor>
- Frasca, G. (2007). *Play the message: Play, game and videogame rhetoric*, Ph.D. dissertation. Copenhagen: IT University of Copenhagen.
- Ghys, T. (2012). Technology trees: Freedom and determinism in historical strategy games. *Game Studies*, 12(1). Retrieved from http://gamestudies.org/1201/articles/tuur_ghys.
- Gotthelf, A. (2012). *Teleology, first principles, and scientific method in Aristotle's biology*. Oxford, UK: Oxford.
- Jenkins, H., & Squire, K. (2003, September). Understanding Civilization III. *Computer Games*, November 7, 2014 from <http://www.educationarcade.org/node/66>.
- Jung, C.G. (1956). (R. F. C. Hull, trans.). *Symbols of transformation, collected works of C. G. Jung*, Princeton, NJ: Princeton University Press.
- Kafai, Y., Heeter, C., Denner, J., & Sun, J. (Eds.). (2011). *Beyond Barbie and Mortal Kombat: New perspectives on gender and gaming*. Cambridge, MA: MIT Press.
- Kant, I. (2005). (J.H. Bernard, trans.). *Critique of judgment*. New York, NY: Dover Publishing.
- Leibniz, G. W. (1985). (E.M. Huggard, trans.). *Theodicy: Essays on the goodness of God the freedom of man and the origin of evil*. Chicago, IL: Open Court.
- Leunissen, M. (2010). *Explanation and teleology in Aristotle's science of nature*. Cambridge, UK: Cambridge.
- McLuhan, M. (1962) *Gutenberg galaxy*. Toronto, ON: University of Toronto Press.

- Mendelbaum, J. (2010). The visible female: Rape culture and horror in StarCraft and Warcraft. *MP: An Online Feminist Journal*. 3:2 (pp. 81-97).
- Mumford, L. (1934) [2010]. *Technics and civilization*. Chicago, IL: University of Chicago Press.
- Plato. (2000). (D. J. Zeyl, trans.). *Timaeus*. Indianapolis, IN: Hackett.
- Plato. (1955). (R. Hackforth, trans.). *Phaedo*. New York, NY: Bobbs-Merrill Company.
- Ruskin, J. (1862). *Unto this last*. New York, NY: Chelsea house.
- Shaw, G. B. (Ed.). (1889). *Fabian essays in socialism*. London, England: Walter Scott Publishing.
- Shaw, G.B. (1889). Economic. In G. B. Shaw (Ed.), *Fabian essays in socialism*. (pp. 3-29). London, England: Walter Scott Publishing.
- Squire, K. (2002). Cultural framing of computer/video games. *Game Studies*, (2)1.
- Steinkuehler, C., Squire, K., & Barab, S. (Eds.). (2012). *Games, learning, and society: Learning and meaning in the digital age*. Cambridge, England: Cambridge University Press.
- Wittgenstein, L. (1953). *Philisophical investigations*. G. Anscombe, P. Hacker, & J. Schulte (Trans.). Hoboken: Wiley-Blackwell.
- Woodfield, A. (1976). *Teleology*. Cambridge, UK: Cambridge.
- Zimmerman, E. (2004). Narrative, interactivity, play, and games. In N. Wardrip-Fruin, & P. Harrigan (Eds.), *First person: New media as story, performance, and game*, (pp. 154). Cambridge, Mass.: MIT Press.